

Reconsideration of this Application is respectfully requested in light of the foregoing amendments and the following remarks. Claims 1- 16 are pending in the application, with claims 1 and 6 being the independent claims.

Description of the Invention

This application is directed to a liquid crystal display (LCD) and its driving method that can eliminate a bright difference caused by applying different polarities of voltages to the adjacent cells. The present invention enables to obtain a polycrystalline silicon thin film that has uniform and well-structured crystal arrays.

Rejections Under 35 U.S.C. § 103

On page 2 of Office Action, the Examiner rejected claims 1-16 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,724,057 issued to Kimura *et al.* ("Kimura").

As per claim 1, the Examiner alleges that Kimura discloses a method for driving a liquid crystal display having a common electrode section and a pixel electrode comprising applying common voltage to common electrodes (22, 20), applying data voltage and common voltage of a positive polarity and a negative polarity to liquid crystal as claimed, referring to column 9, lines 45-67 of Kimura. And the Examiner further alleges that Kimura disclose a polarity of the data applied to the liquid crystal, even when the designated contrast is relatively high and the amplitude of the data is relatively small, and even when the designated contrast is relatively low and the amplitude of the data is relatively large.

The Examiner admits that Kimura does not disclose a polarity of the data voltage applied to the pixels in the group by it would have been obvious to one of ordinary skill in the art to utilize the polarity of the data taught by Kimura as claimed because it would prevent the generation of flicker when the contrast of the displayed image is changed, referring to column 4, lines 33-35 of Kimura.

However, unlike the Examiner's allegation, it is not obvious to *apply a data voltage of a positive polarity and a negative polarity alternately to groups of a plurality of pixels that are adjacently located*. The Examiner fails to show any reference that discloses or suggests such features.

In fact, applying different polarities of data voltages to each group of a plurality of pixels rather than to an individual pixel is counterintuitive. Because each individual pixel is connected to an individual data line, it is natural that the polarities of the data voltages are inverted pixel by pixel. However, as discussed in the specification of the present invention, such an pixel by pixel inversion mode creates such problems as brightness difference, due to the coupling capacitance between the pixel electrodes and the adjacent data lines. After finding out this problem and in order to fix this and other related problems, the invention of the present Application is claimed.

Nowhere in the cited reference Kimura, are disclosed or suggested such features or such problems. Kimura merely disclosed the contrast adjustment and a method reducing flickers during the contrast adjustment.

Therefore, claim 1 is patentable over Kimura. Likewise, claim 2-5 that are dependent from claim 1 is also patentable over Kimura.

Regarding claims 2-3 and 4-5, the Examiner alleges that Kimura inherently discloses such features as claimed in those claims. However, as discussed previously, claims 2-5 that are dependent from claim 1 are all patentable over Kimura as claim 1 is patentable over Kimura.

As per claim 6, 11 and 12, the Examiner alleges that Kimura discloses a substrate, a plurality of gate lines (30) formed on the substrate, a plurality of data lines intersecting the gate lines, a plurality of pixels formed to regions defined by the data lines and the gate lines, and wherein the polarity of the data voltage for the common voltage inverts. The Examiner correctly admits that Kimura does not teach inversion in units of groups comprising of two or more pixels and having a connecting member formed between the gate lines or connecting the common lines. But the Examiner further alleges that it would have been obvious to one of ordinary skill in the art to utilize the pixels in groups because it would prevent pixel defects by utilizing them in group than singularly.

However, as discussed previously, applying different polarities of data voltages to groups of a plurality of pixels rather than to an individual pixel is counterintuitive. Furthermore, the Examiner fails to produce any reference that discloses nor suggests such features.

Therefore, claims 6, 11 and 12 are patentable over Kimura. Likewise, claims 7-10 and 13-16 that are dependent from claim 6 are also patentable over Kimura.

As to claims 7-8, 9-10, 13-15 and 16, the Examiner alleges that Kimura teaches the features in those claims and/or such features as claimed in those claims are obvious.

However, as discussed above, claims 7-8, 9-10, 13-15 and 16 that are dependent from claim 6 are all patentable over Kimura, as claim 6 is patentable over Kimura.

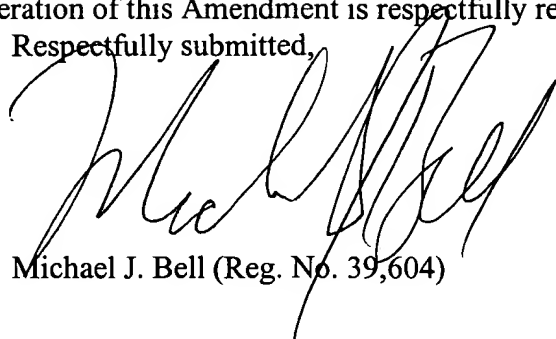
As such, it is submitted that the invention recited in claims 1-16 is patentable over the cited references. A withdrawal of all the outstanding rejections and issuance of claims 1-16 are therefore respectfully requested.

Conclusion

Applicant respectfully submits that the foregoing remarks demonstrate that entry of these amendments places the present application in condition for allowance, or in the alternative, better form for appeal. All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

A large, stylized handwritten signature in black ink, appearing to read 'Michael J. Bell', is written over the text 'Respectfully submitted,'.

Michael J. Bell (Reg. No. 39,604)

Date: October 24, 2000

HOWREY SIMON ARNOLD & WHITE, LLP.
Box No. 34
1299 Pennsylvania Avenue, N.W.
Washington, D.C. 20004-2402
(202) 783-0800